

SECTION 4. DITCHING DEMONSTRATIONS

1735. GENERAL.

A. An applicant or certificate holder who proposes to operate a landplane (passenger or all cargo) in extended-overwater operations (more than 50 miles from land) must conduct a ditching demonstration. This demonstration is conducted in accordance with the requirements specified in FAR 121.291(d) and (e), Part 121, Appendix D(b), and the direction and guidance provided in this chapter. The purpose of the demonstration is to evaluate the operator's ability to safely prepare the passengers, airplane, and ditching equipment for a planned water landing. During the demonstration the following four areas are evaluated:

- Emergency training program
- Ditching procedures
- Crewmember competency
- Equipment reliability and capability

1737. REGULATORY REQUIREMENTS.

A. Full-Scale Ditching Demonstration. FAR 121.291(d) requires an operator to conduct a full-scale ditching demonstration when a ditching demonstration has not been performed for the proposed type and model of airplane by another Part 121 certificate holder. A full-scale demonstration is conducted in accordance with the criteria in Part 121, Appendix D(b), Ditching Demonstrations, as follows:

- (1) The demonstration must be conducted during daylight hours, or in a lighted hangar if conducted at night.
- (2) All required crewmembers must be available and used during the ditching demonstration.
- (3) Passenger participants are used in a ditching demonstration only when required by the operator's procedures to assist in removing and launching liferafts. Passengers shall not receive any instructions before the demonstration except for those required by the operator's manual.
- (4) Stands must be placed at each emergency exit and wing.

NOTE: FAR 25.807(d) requires that, during type certification, ditching emergency exits must be above the calculated waterline which will exist when the airplane is at rest in the water. This "waterline" and the designated ditching emergency exits are defined in the "manufacturer's ditching document" which is part of the final, Part 25, type certification report. The operator should obtain waterline and ditching exit information from the manufacturer. This waterline is where the tops of the stands should be positioned.

(5) When the ditching signal is received, each evacuee (crewmembers and passenger participants, if applicable) must put on a life preserver according to the operator's procedures and the flight attendant's briefing.

(6) Each liferaft or slideraft must be launched and inflated according to the operator's procedures. All required emergency equipment must be placed in the rafts.

(7) Each evacuee must enter a liferaft or slideraft. The crewmembers assigned to the raft shall locate and describe the use of each piece of emergency equipment.

(8) Either the airplane, a life-size mockup, or a floating device which accurately simulates the passenger compartment must be used for the demonstration (Part 121, Appendix D(b)(6)(i)(ii)).

NOTE: It is FAA policy to use an airplane for all ditching demonstrations. If the operator proposes to use a life-size mockup or a floating device to conduct the demonstration, approval must be granted by AFS-1.

B. Partial Ditching Demonstration. FAR 121.291(e) requires an operator to conduct a partial ditching demonstration if the proposed type and model of airplane has previously been demonstrated by another Part 121 certificate holder. A partial demonstration is conducted in accordance with Part 121, Appendix D as follows:

- (1) The demonstration must be conducted during daylight hours or in a lighted hangar, if conducted at night.
- (2) All required crewmembers must be available and used during the ditching demonstration.
- (3) Passenger participants are used in a ditching demonstration only when required by the operator's procedures to assist in removing and launching liferafts. Passengers shall not receive any instructions before the demonstration except for those in the operator's manual.

(4) When the ditching signal is given, each evacuee (crewmembers and passenger participants, if applicable) must put on a life preserver according to the operator's procedures and the flight attendant's briefing.

(5) Each liferaft must be removed from stowage for inspection.

(6) One liferaft or slideraft (selected by the FAA) shall be inflated and launched and the evacuees assigned to that raft shall get in it. The crewmembers assigned to the raft shall locate and describe the use of each item of emergency equipment.

1739. THE DITCHING DEMONSTRATION PLAN.

Ditching demonstrations are normally conducted after the satisfactory completion of the aborted takeoff emergency evacuation demonstrations. In these situations, the same team leader and FAA team members should conduct and observe the ditching demonstration. However, if an operator plans to initiate flights into extended-over-water areas for the first time, with an airplane that he previously operated over land areas, he must conduct a ditching demonstration. This demonstration is either a partial or full-scale demonstration. See paragraph 1737.

A. If the operator plans to conduct the ditching demonstration in conjunction with the emergency evacuation aborted takeoff demonstration, the operator's aborted takeoff demonstration plan must include information applicable to the ditching demonstration such as the following:

- (1) Type of ditching demonstration (full-scale or partial)
- (2) Copies of the operator's manual relating to crewmember's ditching duties and responsibilities
- (3) A description of applicable emergency equipment used for ditching (such as liferafts, survival gear) including the type and model of the emergency equipment.

B. If the operator must conduct a ditching demonstration that is not in conjunction with an emergency evacuation aborted takeoff demonstration, the operator's demonstration plan must be submitted at least 15 working days before the date of the actual demonstration. This plan must include the information in paragraph 1739 A. and the following additional information:

- (1) The airplane type and model which will be used
- (2) The proposed date, time, and location of the ditching demonstration
- (3) The name and telephone number of the company's ditching demonstration coordinator
- (4) A representative diagram of the aircraft which includes the following:
 - (a) Location and designation of each exit

(b) Location of each item of emergency ditching equipment including:

- Liferafts/sliderafts
- Survival radios
- Pyrotechnic signaling devices
- Passenger/crewmember life preservers or individual flotation devices

(5) A list of all crewmembers who will participate in the demonstration

NOTE: Some operator's manuals stipulate the use of passengers to aid the crew when conducting a post-ditching evacuation, usually to assist in launching liferafts. If the operator's procedures require the use of passengers, the necessary passengers must be aboard the aircraft and participate in the demonstration. The operator may not practice, rehearse, or describe the demonstration to the passenger participants in a manner other than the briefing described in the operator's manual.

1741. REVIEW OF THE DITCHING DEMONSTRATION PLAN.

A. When the ditching demonstration plan has been submitted, the principal inspectors must review the proposal to ensure the following:

- (1) The proposed demonstration will meet the criteria in FAR 121.291(d) or (e) and Appendix D, (b).
- (2) The emergency training program and ditching procedures in the operator's manual must have been approved and accepted and provide for safe operating practices.

B. The FAA team must plan for the observation and evaluation of the ditching demonstration. Normally, the demonstration is conducted after the completion of a successful aborted takeoff emergency evacuation demonstration. If an aborted takeoff emergency evacuation demonstration is not conducted, the district office manager shall appoint an FAA ditching demonstration team and a team leader in the same manner as the aborted takeoff demonstration.

1743. CONDUCT OF THE DITCHING DEMONSTRATION.

The ditching demonstration shall be conducted in the following manner:

A. Before the ditching demonstration the team shall inspect each item of emergency ditching equipment for compliance with appropriate airworthiness and other relevant directives.

B. The FAA team leader ensures inspectors and crewmembers are at their assigned positions and then advises the captain to commence the demonstration.

C. The captain initiates the demonstration by ordering (according to the operator's procedures) the crewmembers to prepare for ditching.

NOTE: Regulations do not specify a maximum time limit for the demonstration. However, it is imperative that emergency equipment, crewmember competency, and emergency procedures provide for rapid evacuation since during an actual ditching situation, the airplane may remain afloat for only a short time. During the demonstration, emphasis is on crewmember ability and efficiency in the time period between the decision to ditch and the actual water landing. Six minutes is considered the maximum time acceptable for ditching preparation beginning with the ditching announcement to the simulated water landing. This preparation means participating crewmembers must correctly put on life preservers, brief passenger participants (if applicable), secure the cabin, and complete all required checklists and procedures within 6 minutes of the ditching announcement. Failure to be prepared at the end of 6 minutes constitutes an unsatisfactory demonstration.

D. The FAA team leader begins timing when the captain issues the prepare-for-ditching order. At the end of the 6-minute "planned ditching" period the crew must be prepared for a simulated water landing. After the simulated water landing, all liferafts must be removed from stowage. This action is not specifically timed, however the crewmembers must demonstrate

competency in removing the rafts from stowage and the raft must be capable of being removed from the airplane for deployment in a reasonable period of time. For full-scale demonstrations all liferafts and slide-rafts will be launched and inflated. During a partial ditching demonstration one liferaft (or slideraft), designated by the FAA team leader, is launched and inflated. For the purpose of this demonstration "launching" a liferaft means to remove it from stowage, manipulate it out of the airplane (via stands or ramps), and position it on the ground before inflation. "Launching" a slideraft means to inflate it in a normal manner and then lower it to the ground.

NOTE: For partial ditching demonstrations on aircraft configured with sliderafts, it is not necessary to detach each slideraft from its respective door mounting. However, each slideraft must be inspected for its airworthiness. Any liferafts stowed inside the airplane must be removed from stowage and placed on the cabin floor for inspection.

E. Crewmembers assigned to any inflated raft shall be questioned about actual launch procedures then enter the raft and locate and describe the use of each item of emergency equipment within the raft.

1744. - 1748. RESERVED.

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